

been demonstrated in patients with chronic myelogenous leukemia (CML). Allogeneic stem cell transplantation (ASCT) can be curative for patients (pts) with CML. It is not known if the abnormal BM angiogenesis changes following SCT. We studied the effect of SCT on BM microvessel density (MVD) in CML and examined the prognostic value of pre and post transplant (Tx) MVD. **Patients and Methods:** We evaluated MVD from BM samples obtained just prior to and at 3-5 months after ASCT in 38 CML pts. 31 pts each had either pre-Tx or post-Tx biopsies and 24 pts had both pre and post Tx biopsies available for comparison. Microvessels were stained using immunohistochemical staining for vonWillebrand factor, using a labeled streptavidin-biotin peroxidase method. MVD was estimated by determining the average number of vessels in 3 hot spots examined at 400x magnification. The angiogenesis was graded as low (MVD < 10), intermediate (MVD < 20) or high (MVD ≥ 20). **Results:** The median MVD pre Tx for 31 pts was 14 (4-37); with 13 pts having high-grade angiogenesis, 12 intermediate-grade and 6 low-grade. The median post Tx MVD in 31 pts was 20 (range 5-36) with 16 pts having high-grade angiogenesis, 13 intermediate-grade and 2 low-grade. The median time between biopsies was 4 months (range 1-6 months). There was no significant change in the following Tx (P=0.8, paired t-test). The MVD increased in 12 pts (median increase 8), decreased in 10 (median decrease 9) and remained unchanged in 2. The pre or post Tx MVD did not predict relapse free or overall survival following SCT. The microvessels in the post Tx BM demonstrated striking dilatation compared to the pre-Tx marrow. **Conclusion:** BM angiogenesis seen in CML does not change significantly following allogeneic SCT. These results are consistent with what we have observed in patients with multiple myeloma receiving high dose or conventional therapy and also with other reports. It is possible that persistent vessels may serve as a nidus for tumor relapse, however we were not able to demonstrate such an effect in our small group. This data provide further evidence against using regression of angiogenesis as a marker of therapeutic response, even in the context of anti-angiogenic therapy.

## 81

**INFECTIONS AFTER ALLOGENEIC BONE MARROW TRANSPLANTATION (ALLO-BMT) IN SOUTH BRAZIL: LOW INCIDENCE OF INVASIVE FUNGAL INFECTIONS DESPITE LOW-DOSE FLUCONAZOLE PROPHYLAXIS**  
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Infections remains a main cause of morbidity and mortality after allo-BMT. Herein we describe our data concerning infections incidence until D+100 after BMT. We retrospectively reviewed 98 patients transplanted from 12/94 to 04/02 with an HLA-identical (n=96), 1-HLA allele mismatch (n=1) or syngeneic (n=1) sibling donor. Graft source was bone marrow in 88 patients. Median follow-up was 3 years. Median age was 31 years. Seventy-six patients had malignancies (CML 45, ALL/AML 27, MDS 4). Eight-eight patients were CMV positive. GVHD prophylaxis was cyclosporine + methotrexate in 94 patients. Uni- and multivariate analysis were performed with Kaplan-Meier/log rank and Cox models respectively. Transplant-related mortality (TRM) and overall survival (OS) were 24% (100 days) and 54% (5 years). Acute grade 2-4 GVHD incidence was 32%. Fifty-four patients presented at least one episode of a severe bacterial infection (septicemia, septic shock, and pneumonia), with a cumulative incidence of 56% until D+100. Most frequent bacteria isolated were *Staphylococcus* sp. (n=53), *E. coli* (n=7) and *Klebsiella* sp. (n=6). In univariate analysis, no variable influencing incidence of bacterial infections, however, there was a tendency of less bacterial infections with a higher nucleated cell dose graft (p=0.11). Thirty-five patients presented at least one episode of CMV reactivation with a cumulative incidence of 36%. Six patients presented a CMV disease. In multivariate analysis, presence of acute GVHD grade 2-4 (HR=2.8; CI95: 1.43-5.46; P=0.003) and recipient age more than 18 years (HR=0.09; CI95: 0.01-0.64; P=0.02) were associated with a higher

incidence of CMV infection/disease. Only three patients presented a proven or probable invasive fungal infection: 1 candidemia, 1 *Aspergillus* sp. infection and 1 *Fusarium* sp. infection until D+100. The incidence of bacterial and CMV infections were comparable to the literature. On the other hand, despite use of a relatively lower dose of fluconazole, incidence of fungal infection was significantly lower than expected. In our experience, use of low-dose fluconazole (200mg/d) is sufficient to provide adequate prophylaxis for fungal infections, decreasing BMT costs. Low incidence of mold infections might be explained by factors other than fluconazole use.

## 82

### **DNA BASED HIGH RESOLUTION TYPING : OPTIMIZED PRESELECTION FOR CONFIRMATORY TYPING (CT)**

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Search speed and monetary resources can be minimized by inserting a DNA based high resolution typing before requesting an unrelated stem cell donor for confirmatory typing. Therefore the DKMS offers the possibility to request high resolution typing class I and II since 1992 (at least on four digits level). These typings are performed with new drawn blood samples and not with "stored samples", because we think that donors should be aware of the importance to become a potential stem cell donor soon. With the introduction of optimized software and changing the workflow in 2000, the turnaround time from donor contact to the transmission of the typing results could be halved from over 20 to about 10-13 days. The results of the high resolution typings give a very precise preselection of donors for an allogeneic stem cell transplantation. So the donor selected for confirmatory typing after a request for high resolution typing is more propable to be the suitable donor. We observe a steadily increasing number of high resolution typing requests that over-rides the increasing number of the confirmatory typings. High resolution typings and the returning of the confirmatory typing results by the search centers heighten the quality of our donor data base, reduce the workload for the search centers and accelerate donor searches in the future.

## 83

### **CASE REPORT OF A PATIENT WITH ADULT T-CELL LEUKEMIA/LYMPHOMA (ATLL) 18 MONTHS AFTER ALLOGENEIC MATCHED RELATED DONOR PERIPHERAL STEM CELL TRANSPLANT**

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The long term prognosis for persons affected with Adult t-cell leukemia/lymphoma associated with HTLV -1 disease is dismal. We report a case in which a patient is without evidence of disease at 18 months after peripheral blood stem cell transplant. Her brother was her matched donor. She was treated with Fludarabine and Busulfex conditioning regimen prior to transplant. She is thirty nine years old, African American, diagnosed in November 2000. She presented with palpable adenopathy, hepatomegaly, elevated WBC of forty-four thousand and eight nine percent lymphocytes, hypercalcemia, elevated LDH, pleural effusion, pericardial effusion and multiple areas of adenopathy in her chest. HTLV 1 antibody was reactive. Bone marrow biopsy and thoracentesis were both consistent with ATLL. Complex chromosome abnormalities were present including trisomy 3 and 7. She received 2 cycles of adriamycin, VP-16, dexamethasone with decrease in adenopathy and was brought to transplant after passing the requisite pretransplant organ testing. She received 16 doses of high dose Busulfex per pharmacokinetic dosing every six hours, Fludarabine at 40mg/m<sup>2</sup>, one dose daily for 5 consecutive days, and antithymocyte globulin 15mg/kg for four doses. Her graft versus host disease prevention included long course methotrexate and cyclosporine. Evaluations at 100 days, 200 days, 1 year and 18 months show no radiographic evidence of disease. FISH studies consistently show 100% male donor chromosomes. Bone marrow aspirate and biopsy at one year shows normal tissue morphology